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SECONDARY MARKET

MOVING PEOPLE INTO HOUSES

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APRIL 1991 VOLUME 51 NUMBER 7

COVER:

Secondary Mortgage Market

Car culture is now thoroughly ingrained in American society. Yet the automobile would have remained just an interesting piece of technology—a toy of the monied class—had it not run into a market system that really worked. Packaging goods with great potential demand into affordable purchases is what America does best. The secondary mortgage market is another such innovation that makes the most of the strength of this nation's market economy to bring a higher standard of living to all.

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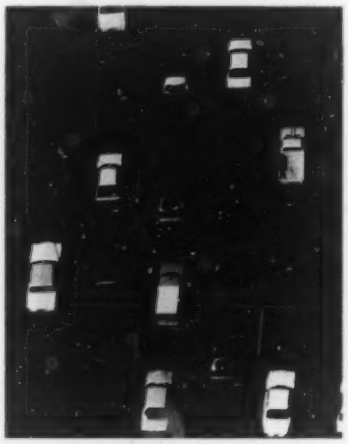
COVER PHOTOGRAPH BY STEVE PROEHL/THE IMAGE BANK
MODEL T COURTESY OF FORD MOTOR COMPANY

Market Perfection

The secondary mortgage market just keeps pursuing perfection. There are many winners benefiting from this ongoing exercise in self improvement. The pricing benefits produced by a well-performing secondary market have been helping average American homeowners every month in the form of lower payments. But investors haven't exactly been forgotten. In seven of the past eight years, the annual total returns on mortgage-backed securities have far exceeded those of Treasury securities.

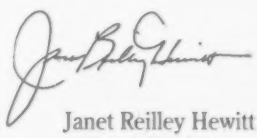


The numbers clearly document the pricing efficiencies now built into the system. The yield spread on current-coupon Ginnie Maes versus 10-year Treasuries narrowed to just in excess of 100 basis points by the end of last year. That compares with the more than 200 basis point spread that prevailed in early 1983. That is progress.

One of our contributors this month isolates what amounts to a kind of coming-of-age that the secondary market went through dating from about 1983. As the author notes, it is also no mere coincidence that the collateralized mortgage obligation (CMO) was created that year. From 1970 through 1981, the number of originations funded through mortgage-backed securities was a meager share of the total. By 1982, that number started to climb. Between 1983 and 1990, at least 40 percent of originations were funded by pass-throughs, with the exception of two years when ARM volume surged. By last year, a whopping 64 percent of residential originations wound up in securities.

Furthermore, without the help of Fannie Mae, Freddie Mac or GNMA, the jumbo securities market appears to be going gangbusters on its own. Last year, an impressive 40 percent of this production was securitized, up from just 24 percent in 1989.

So, the American secondary market has clearly emerged as a model for funding housing in the most efficient way. Exporting a market concept may sound a bit unwieldy, but going global with the secondary market is clearly the next big chapter to be written.



Janet Reilley Hewitt
Editor in Chief

COMING IN MAY

What's it like to work for a mortgage operation being run by the RTC? We will tell you next month as we tackle a variety of topics on residential lending.

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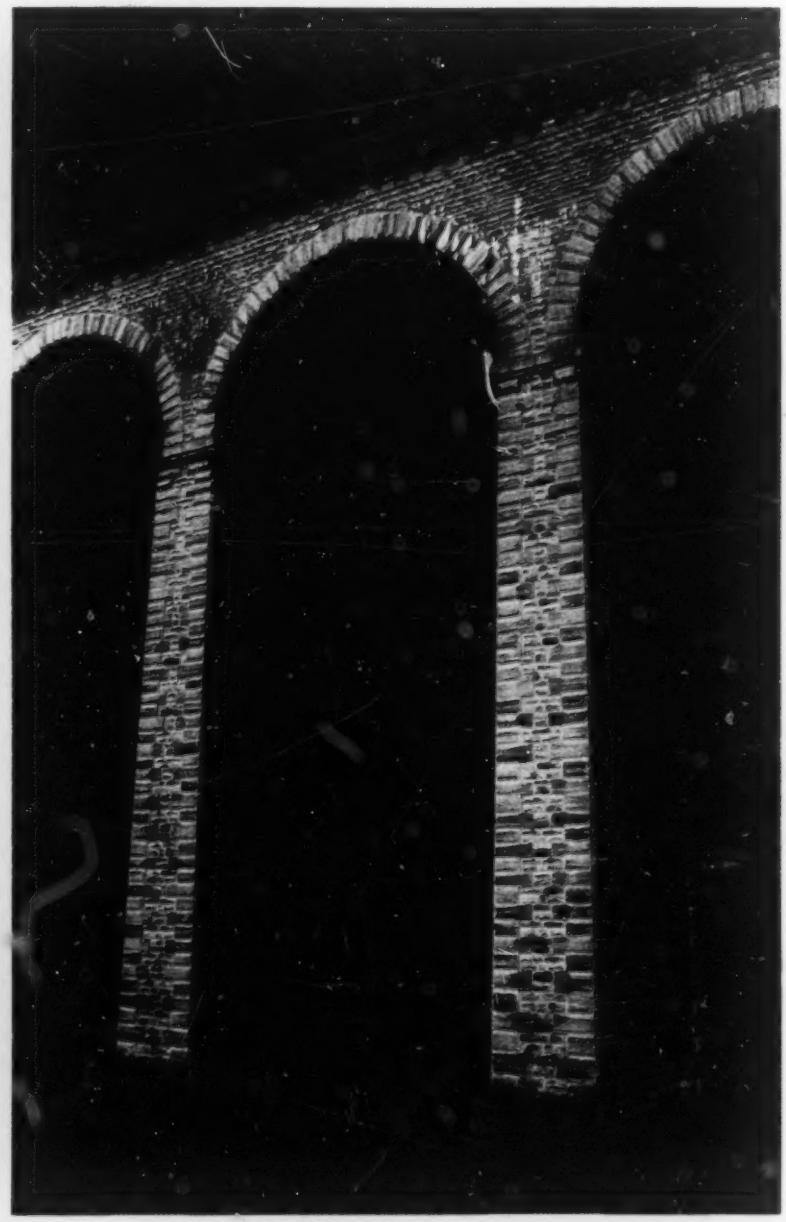


PHOTOGRAPH BY KAY CHERNUSH/THE IMAGE BANK

TESTING THE

Although delinquencies were on the rise in 1990, loans in private pass-throughs were holding up pretty well. Most offerings boast rock-solid credit support to withstand the stress the economy is dishing out.

Howard Esaki

The private residential mortgage pass-through market has recently been marked by increasing concern over the deterioration of credit quality. Falling home prices and a weak national economy have produced rising delinquency and foreclosure rates.

Furthermore, numerous downgrades of financial institutions providing credit support for these offerings have shown that the mortgage pass-through market is not invulnerable to a recession. Indeed, a record number of

downgrades of mortgage pass-throughs in the past year confirmed that, similar to the corporate bond market, a weak economy can adversely affect ratings of structured securities.

From the perspective of early 1991, however, Moody's Investors Service believes that the credit support on the vast majority of Aaa-rated and Aa-rated mortgage pass-throughs will far exceed any realized or expected losses on the underlying mortgage collateral in the future.

Credit concerns have produced increased investor appetite for the mortgage securities of Moody's highest rating category. In 1990, more than $10 billion of Aaa-rated mortgage pass-throughs were issued, compared with a total of less than $3 billion in the previous three years (see Table 1). The market has clearly shifted from one of predominately (90 percent) Aa-rated securities during the 1987 to 1989 issuance period to one almost evenly divided between Aa-category and Aaa ratings by 1990.

At the same time that the average rating on the senior class of mortgage pass-throughs was increasing, a record number of junior classes rated below the Aa-category were created by a move toward more complex structures and forms of credit enhancement.

Issuance rises and structures get more complex

Total issuance of publicly rated mortgage pass-throughs rose to a record $25 billion in 1990, up from the $15 billion issued in each of the previous two years.

Issuance of securities backed by home equity lines of credit and second mortgages also increased sharply to $5.6 billion in 1990. That was almost double the volume in 1989 for those securities. Issuance volume was about equally divided between open-ended home equity lines of credit and closed-end second mortgage loans, with the number of separate transactions rising to twenty-five from seven the previous year. More than $5 billion of the securities in the home equity and second mortgage category were rated Aaa.

Total issuance of publicly rated mortgage pass-throughs rose to a record $25 billion in 1990, up from the $15 billion issued in each of the previous two years.

In another sector, CMO issuance increased by about 10 percent in 1990. The increased issuance reflected a rise in mortgage originations and sales by financial institutions under pressure to meet capital requirements.

The share of new, fixed-rate, private pass-through issuance fell from two-thirds in the first half of the year to about 40 percent in the last two quarters. For the year, slightly more than one-half of the issuance was fixed rate, compared to about 45 percent in 1989 and 25 percent in 1988.

Regulatory changes proposed in 1989 continued to exert a strong influence on the form of credit support used for offerings during 1990 and the beginning of 1991. A proposal that issuers retaining a subordinated class hold a large amount of capital against that holding caused a shift away from senior/subordinated structures starting in the last half of 1989. The senior/subordinated structure was used in 80 percent of transactions in 1988, and subordination was the main form of credit support in about one-third of 1990 issues. Another third of 1990 issues derived credit support from pool insurance polices, with the remaining third backed by either letters of credit or corporate guarantees.

The shift away from senior/subordinated structures has led to the evolution of more complex forms of credit support. For example, a "spread account," or the allocation of a portion of the interest payments to credit support, was first used in 1990. The first transaction was issued in March 1990 by Marine Midland Bank, N.A., Buffalo, New York. By April, St. Louis-based Citicorp Mortgage, Inc., was also using spread accounts. In analyzing the value of a spread account, Moody's examines many different prepayment and loss patterns. The faster a pool of collateral prepays, the less cash is built up in the spread account. However, faster prepayments result in a smaller pool of mortgages vulnerable to risk. A positive feature of the spread account is that available credit support is generally greater as the size of the pool grows larger. Many recent transactions have combined several

FOUNDATION

forms of credit support, such as subordination, spread accounts, and/or corporate guarantees. The use of tiered structures with multiple ratings has also increased, as originators attempted to sell subordinated classes in order to lower their capital requirements.

California mortgages dominate

Almost two-thirds of the mortgages in pass-throughs issued in 1990 were originated in California. About 14 percent were from the New York-New Jersey-Connecticut area, and less than 5 percent were from the oil-patch states of Texas, Louisiana and Oklahoma. Private mortgage pass-throughs typically consist of loans with balances exceeding the Fannie Mae/Freddie Mac purchase ceiling, which was raised to $191,250 in 1991 for single-family mortgages, up from $187,450 in 1990.

The average loan-to-value (LTV) ratio for privately securitized loans was 73 percent in 1990. About 10 percent of all loans had an LTV ratio of more than 80 percent, with approximately one-half of this category having private mortgage insurance. Although many lenders were tightening underwriting standards, close to half of the loans packaged into pass-throughs issued during 1990 were originated under some form of limited documentation program.

The average pool issued in 1990 contained loans on investor properties equal to 3 percent of total balances. More than 90 percent of loans in private pass-throughs issued in 1990 were for single-family detached units, with the remainder consisting of condominiums and planned-unit developments. About one-fourth of the loans were equity ("cash-out") refinancings. Most pools securitized in 1990 contained loans with less than a year of seasoning.

Issuance was evenly divided between fixed- and adjustable-rate or graduated-payment mortgages. Non-fixed-rate mortgages consisted of those without negative amortization (19 percent of total issuance), negatively amortizing loans (15 percent), ARMs with a conversion-to-fixed-rate feature (7 percent), graduated payment or growing equity loans (7 percent) and 7-year balloon loans (0.3 percent). In 1989, about one-third of total issuance was ARMs without negative-amortization, with the share for negative amortization ARMs and GPMs at 13 percent and 4 percent, respectively.

In 1990, credit support for Aa2-rated mortgage pass-throughs averaged about 5 percent to 6 percent of the rated amount for fixed-rate securities and 7 percent to 8 percent for ARM pass-throughs. For Aaa-rated securi-

TABLE 1

Ratings of Residential Mortgage Pass-Throughs

	1987-1989 Issuance		1990 Issuance		Total Outstanding[1] (1/31/91)	
	($ bil.)	%	($ bil.)	%	($ bil.)	%
Aaa	2.8	7.9	10.2	41.5	13.1	25.6
Aa1	0.1	0.3	0.8	3.2	1.3	2.5
Aa2	28.7	79.4	11.7	47.4	31.5	61.6
Aa3	3.9	10.8	1.7	6.9	1.5	2.9
A1	0.4	1.1	*	0.1	0.4	0.7
A2	0.1	0.3	*	**	2.5	4.9
A3	*	0.1	0.1	0.2	0.6	1.3
Baa1	0.0	0.0	*	0.2	*	0.1
Baa2	0.1	0.2	0.1	0.3	0.2	0.4
Baa3	0.0	0.0	*	0.1	*	0.1
Total	42.9	100.0	24.6	100.0	51.1	100.0

* less than $50 million

** less than .05%.

[1]Current balances; includes changes since initial rating.

TABLE 2

Moody's Delinquency Index for Mortgage Pass-Throughs
(Data as of 9/90, from 10/90 distribution date reports)

Mortgage Type	Original Balance ($bil.)	Remaining Balance ($bil.)	Remaining Enhancement (as % of pool bal.)	Non-performing Loans (%) 30 Day	60 Day	90+ Day	Total Delinquent	In Foreclosure[1]	REO[1]	Cumulative Realized Losses (as % of orig. bal.)[1]
Total	52.1	42.9	10.3	1.80	0.70	0.56	3.06	0.41	0.07	0.01
Seasoned[2]										
Total	30.7	22.3	11.4	2.13	0.93	0.77	3.83	0.59	0.13	0.01
Fixed Rate										
30 year[3]	7.8	6.7	8.6	1.38	0.85	0.43	2.66	0.30	0.07	0.01
15 year[4]	1.9	1.3	8.4	0.48	0.45	0.22	1.15	0.05	0.00	*
Adjustable Rate										
No negative am	15.0	10.3	12.5	2.59	1.05	1.10	4.74	0.70	0.15	0.02
Negative am	5.5	3.7	13.7	2.61	0.75	0.62	3.98	0.91	0.21	0.01
Graduated Payment	0.3	0.3	10.5	0.93	2.81	0.00	3.74	0.00	0.00	0.00

[1]Assumed to be 0 for pools not reporting data.
[2]Pools originated by 9/30/89.
[3]Includes pools with some 15- and 20-year mortgages.
[4]Includes bi-weekly mortgages.
*less than .005 percent

ties, credit enhancement typically ranged from 8 percent to 13 percent of the initial balance. These levels of credit enhancement were similar to the levels in 1989.

Trend toward concentration

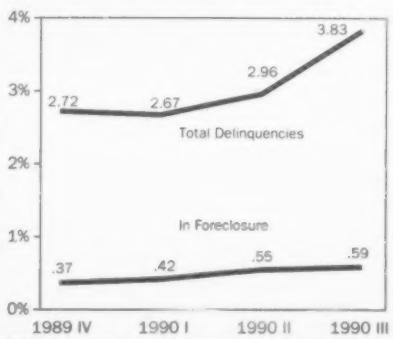
The consolidation in the financial industry has also affected the activity of issuers of mortgage pass-throughs. The top 10 issuers of pass-through securities in 1990 accounted for 76 percent of total volume, compared to 67 percent in 1989 and 62 percent in 1988. In 1990, the top 10 issuers (with the dollar amount of issuance in parentheses) were these:

1. Residential Funding Corporation ($3.9 billion)
2. Citicorp Mortgage Securities ($3.3 billion)
3. Prudential Home Mortgage ($3.0 billion)
4. Chase Mortgage Finance ($1.5 billion)
5. Cal Fed S&L ($1.4 billion)
6. Ryland Mortgage Securities ($1.4 billion)
7. Travelers Mortgage Services ($1.2 billion)
8. Citibank, N.A ($1.1 billion)
9. Guardian Savings ($0.9 billion)
10. Sears Mortgage Securities ($0.8 billion)

In 1989, the top five issuers (Citicorp Mortgage Securities, Residential Funding Corporation, Ryland Mortgage Securities, Travelers Mortgage Services, and Prudential Home Mortgage) were responsible for 47 percent of all issues. Last year, the share of the top five issuers increased to 54 percent of the total. Moody's expects the trend toward further consolidation to continue in 1991 and beyond.

CHART 1

Delinquency Rates on Seasoned Mortgage Pass-throughs



Delinquencies on the rise

As shown in Chart 1, mortgage delinquencies have been on the rise over the past year. At the end of the third quarter 1990, total delinquencies on seasoned pass-throughs rose to almost 4 percent of outstanding balances, compared with less than 3 percent at the end of 1989. Loans in foreclosure also rose to a new high of 0.59 percent, compared with 0.37 percent at the start of the year.

Seasoned pass-throughs, defined as those initially rated by Moody's more than a year ago, had a remaining balance of about $22 billion as of September 1990 (see Table 2). At that time, all pass-throughs rated by Moody's had a current balance of $43 billion, with a total delinquency rate of 3.06 percent. Seasoned pass-throughs tend to have higher delinquency rates because they are past the period of low delinquencies that are characteristic of the early months of a pool.

The best performing loans in outstanding mortgage pass-throughs are 15-year, fixed-rate mortgages, with a total delinquency rate of just in excess of 1 percent.

A breakdown of the delinquency and foreclosure rates for different types of loans in mortgage pass-throughs as of September 1990 shows that ARMs in pools clearly demonstrated a higher delinquency rate than fixed-rate mortgages in pools. Adjustable-rate mortgages had the highest delinquency rate of loans packaged into private pass-throughs, with nearly 5 percent of the ARMs without negative amortization delinquent in September 1990. ARMs with the potential for negative amortization had a slightly lower delinquency rate, about 4 percent. Most of the negatively amortizing loans were originated in California, where the total delinquency rate is below the national average.

Fixed-rate mortgages pooled into seasoned private pass-throughs have a delinquency rate of less than 3 percent. The best performing loans in outstanding mortgage pass-throughs are 15-year, fixed-rate mortgages, with a total delinquency rate of just in excess of 1 percent. About 1 percent of ARM pools are in foreclosure or held as real estate owned, three times the rate for fixed-rate loans. A mere 5 basis points of 15-year, fixed-rate loans in pass-throughs are in foreclosure.

In regional markets, delinquencies on residential, first-mortgage loans originated in California are well below the national average, while delinquencies are rising in the New York-New Jersey-Connecticut area on residential, first-mortgage loans (see Table 3). At the end of the year, delinquency rates on California pools were just above 1 percent and had trended down from rates earlier in 1990. The weakness in California home prices had yet to manifest itself in higher delinquency rates in early 1991. In contrast, the percentage of non-performing residential, first-mortgage loans in the New York area trended up through the year, ending near 3.5 percent. Loans in foreclosure in New York area pools rose to 81 basis points, more than double the percentage at the start of 1990.

All seasoned pools paid down at a rate of about 1 percent a month, or 13 percent at an annual rate in 1990. Paydown rates for ARMs averaged an annual rate of nearly 20 percent in 1990, although the rate slowed to below 15 percent toward the end of the year. The paydown rate for fixed-rate mortgages typically ranged between 6 percent and 8 percent at an annual rate.

The reason for the year-end slowdown in prepayments was partly seasonal and was partly attributed to fewer home sales in a weak economy. If continued economic weakness brings lower mortgage rates as expected, prepayment rates should rebound as refinancing activity increases. At a 20 percent paydown rate, a pool will be reduced to approximately half of its original balance in three years.

Collateralized mortgage obligations

Issuance of CMOs totaled slightly higher than $100 billion in 1990, up about 10 percent from the level in 1989. The increase in volume was attributed to a rise in mortgage originations, as well as increased demand by both foreign and domestic investors for CMOs with classes tailored to meet

the specific needs of certain investors.

1990 was the second full year in which there were no volume limits on Fannie Mae/Freddie Mac direct issuance. As in 1989, direct issuance by Fannie Mae and Freddie Mac accounted for more than 85 percent of the total. The remainder was composed of issues using GNMA pass-throughs as collateral and issued privately. Privately issued CMOs typically receive an Aaa rating.

Moody's expects issuance of CMOs in 1991 to rise modestly to about $110 billion, with Fannie Mae and Freddie Mac again dominating the market. It is expected that GNMA will issue its first CMO/REMIC using its own collateral in the near future. However, the first GNMA CMO may not be issued until 1992.

The collapse of Drexel Burnham Lambert in early 1990 raised questions about the safety of privately issued CMOs. The main concern was that the failure of a party involved with a transaction could threaten the cashflows of the CMO. Moody's confirmation of its Aaa ratings on CMOs within Drexel's CMO program allayed fears about that particular program. However, because of overall weaknesses in the financial system, Moody's must continue to closely monitor the parties involved in a privately issued and rated CMO.

Outlook: more delinquencies, but adequate credit support

The sluggish economy in the first half of 1991 should produce further deterioration in home prices, especially in such markets as the Northeast, which are already in an economic slump. An acceleration of home price declines will lead to higher delinquency, foreclosure and loss rates on the mortgages underlying pass-through securities.

Almost all Aaa-rated and Aa-rated issues will have credit support equal to several multiples of collateral losses in a moderate recession. Although losses should rise as the economy weakens, the mortgage collateral underlying seasoned pass-throughs at year-end had suffered losses totaling only 1 basis point (.01 percent) of original balances. Currently, the level of credit enhancement for seasoned pass-throughs is more than 11 percent of outstanding balances.

Pass-through issuance in 1991 is expected to increase slightly over the 1990 level. The issuance of home equity, second mortgage-backed securities is expected to rise to about $10 billion in 1991 from $5.6 billion last year.

New and existing home sales are expected to continue at a slow pace. However, falling interest rates will increase the volume of refinancing. Institutions facing capital constraints will also be under pressure to sell assets. **MB**

Howard Esaki, Ph.D., is an assistant vice president in the Structured Finance Department of Moody's Investors Service, New York.

TABLE 3

Regional Delinquency Rates, March 1989-Nov. 1990

		Percentage of Non-Performing Loans (by Principal Amount)					Cumulative Realized Losses[1]	Annualized Paydown Rate
		30 Days	60+ Days	Total	In Foreclosure[1]	REO[1]		
CALIFORNIA	March 1989	1.38%	0.08%	1.46%	0.03%	0.00%	0.00%	10.5%
	June 1989	0.77%	0.03%	0.80%	0.03%	0.00%	0.00%	10.5%
	Sept. 1989	1.10%	0.44%	1.54%	0.00%	0.00%	0.00%	11.8%
	Dec. 1989	1.85%	0.34%	2.19%	0.04%	0.00%	0.00%	12.7%
	March 1990	2.06%	0.53%	2.61%	0.10%	0.00%	0.00%	13.0%
	April 1990	1.05%	0.35%	1.40%	0.19%	0.00%	0.00%	12.2%
	May 1990	2.03%	0.66%	2.69%	0.04%	0.00%	0.00%	9.2%
	June 1990	1.70%	0.41%	2.11%	0.00%	0.00%	0.00%	11.3%
	July 1990	0.90%	0.23%	1.14%	0.03%	0.00%	0.00%	11.6%
	August 1990	0.75%	0.43%	1.18%	0.03%	0.00%	0.00%	12.7%
	Sept. 1990	0.60%	0.23%	0.83%	0.11%	0.00%	0.00%	10.4%
	Oct. 1990	0.81%	0.16%	0.97%	0.12%	0.00%	0.00%	12.6%
	Nov. 1990	1.14%	0.19%	1.33%	0.12%	0.00%	0.00%	8.1%

		Percentage of Non-Performing Loans (by Principal Amount)					Cumulative Realized Losses[1]	Annualized Paydown Rate
		30 Days	60+ Days	Total	In Foreclosure[1]	REO[1]		
NY/NJ/CT	March 1989	1.17%	0.24%	1.41%	0.04%	0.00%	0.00%	9.1%
	June 1989	1.72%	0.43%	2.14%	0.07%	0.04%	0.00%	7.3%
	Sept. 1989	1.69%	0.67%	2.36%	0.19%	0.00%	0.00%	9.4%
	Dec. 1989	1.56%	0.95%	2.50%	0.35%	0.00%	0.00%	13.2%
	March 1990	1.38%	0.90%	2.27%	0.30%	0.00%	0.00%	12.5%
	April 1990	2.07%	1.12%	3.20%	0.36%	0.00%	0.00%	13.7%
	May 1990	1.73%	1.37%	3.11%	0.41%	0.00%	0.00%	10.0%
	June 1990	1.84%	1.45%	3.29%	0.45%	0.00%	0.00%	12.9%
	July 1990	2.18%	1.30%	3.48%	0.48%	0.00%	0.00%	15.8%
	August 1990	1.61%	1.54%	3.14%	0.52%	0.00%	0.00%	14.3%
	Sept. 1990	2.06%	1.49%	3.56%	0.52%	0.00%	0.00%	10.9%
	Oct. 1990	1.75%	1.77%	3.51%	0.63%	0.06%	0.00%	11.7%
	Nov. 1990	1.66%	1.65%	3.32%	0.81%	0.06%	0.00%	10.6%

[1]Assumed to be zero for pools not reporting data. Real estate owned (REO) represents the book value of property acquired through foreclosure or grant of a deed in lieu of foreclosure in respect to any mortgage loan.

JUMBO OPPORTUNITIES

High-balance loans can offer high-end profits.

PHOTOGRAPH BY THE IMAGE BANK

1990 WAS A BANNER YEAR for the securitization of residential mortgage loans. A whopping 64 percent of last year's estimated mortgage originations were securitized.

The jumbo mortgage loan sector saw the biggest jump in securitization. During 1990, jumbo loan securities totaled $24.4 billion, or approximately 40 percent of the $61.5 billion in total jumbo loan originations. In the previous year, only 24 percent of the $59.3 billion in jumbo loan originations found their way into mortgage-backed securities.

The reasons for the increase in securitization activity are many. They include tougher capital regulations for banks and thrifts, enhanced technology associated with the tranching of whole-loan cash flows and greater investor acceptance of whole loan-backed REMIC securities. This article will discuss the impact that securitization has on profit margins and balance-sheet management. We will investigate various credit-enhancement techniques and assess their RAP (regulatory accounting principles) and GAAP (generally accepted accounting principles) implications. Finally, we will address in detail the hold-versus-sell decision as it relates to the most important market participant—the shareholder.

Jumbo loan outlook

As banks and thrifts position themselves for 1992 regulatory capital levels, one would expect a continued increase in jumbo loan securitizations. However, widening credit spreads brought about by investors' concerns about mortgage portfolio performance in a recessionary environment, along with a scarcity of credit-enhancement vendors, will raise the cost of jumbo loan securitization in 1991.

Overall, Security Pacific National Bank expects a moderate increase in jumbo securitization levels for 1991. As credit concerns abate as the recession draws to a close, we expect a meaningful increase in jumbo loan securitization. Table 1 depicts Security Pacific's estimates of the size of the jumbo loan origination market and the corresponding level of jumbo loan securitizations for the years 1987 through 1990.

In many respects, we can measure the maturity of the residential mort-

Scott McAfee and Luke Hayden

gage market by its pricing efficiency. Asset securitization enhances the efficiency of a financial product as well-defined markets for the product are developed. As mortgage bankers know, residential conforming mortgages have become a commodity over the past decade. Profit margins have been continually squeezed as well-capitalized, nontraditional players continue to consolidate secondary marketing and servicing activities. Table 2 depicts the estimated size of conforming mortgage loan originations and the associated securitization level for the years 1987 through 1990.

It is no accident that we have experienced higher levels of asset securitization as the conforming mortgage loan product has taken on commodity-like characteristics. In a similar fashion, we can expect continued growth in securitization of jumbo loans to have a meaningful and adverse impact on the profit margins associated with jumbo loan originations. The trick, of course, is to get into the game before all the spread is gone.

Unlike conforming residential mortgage products, jumbo loans may offer reasonable rates of return when financed either on or off the balance sheet of a financial institution. Conforming loans, on the other hand, typically offer better rates of return when financed off the balance sheet, as the match-funded yield spreads associated with conforming loans are relatively thin. Financing off the balance sheet is nothing more than the sale of the mortgage asset with retention of the servicing fee.

Portfolio lending vs. jumbo securitization

Let's look at examples of portfolio lending (on-balance-sheet financing) and jumbo loan securitization. For purposes of this discussion, let us assume we have no hedging costs and we incur no gains or losses on the sale of jumbo loans. Additionally, let us assume we have a consistent annual production volume and a steady, 8 percent prepayment rate, starting with the second year of the life of the loan. We give some "ramp up" effect to our sales program beginning with $250 million in sales during the first year and leveling off with annual sales of $350 million in the second through the fifth year. Finally, let us assume we have no change in servicing costs over time. Given this utopian world, we can estimate returns on tier-one and risk-based capital levels.

As lenders bring their capital levels in line with 1992 requirements, we can expect a higher percentage of jumbo originations to be securitized.

The following assumptions compare the various income-statement, balance-sheet, and capital-ratio impacts associated with portfolio lending versus jumbo loan securitization. Our assumptions include an annual production volume of 400 million and an average loan size of $250,000, with an interest rate of 10.5 percent over 360 months. Prepayment speed is 8.0 percent, servicing costs are $75, and credit enhancement is .28 percent. The pass-through rate is 9.97 percent, and the match book funding costs are 9.0 percent. The tier-one capital level is 4 percent, and the tier-one hurdle level is 16 percent. Finally, risk-based capital is 2 percent, and the tax rate is 39.3 percent.

In a portfolio lending environment, our average assets reach $1.5 billion at the end of five years. These assets generate net interest income in the fifth year of $18.8 million. Because we have not sold any assets, we have not created a stream of servicing income. Consequently, our total income is $18.8 million. Taxes equal $7.4 million, and net profit after taxes equals $11.4 million. Return on average assets remains constant during years one through five at .7588 percent. Required tier-one capital reaches a high in year five at $60.2 million. Return on tier-one capital is approximately 19 percent. The corresponding return on risk-based capital is 37.9 percent.

Because we have not created an off-balance-sheet servicing asset, our return on assets, return on tier-one capital and return on risk-based capital remain constant from years one through five of our portfolio lending program. As we will see in our next example, the creation of an off-balance-sheet asset that produces a stream of income causes the return on assets, return on tier-one capital and return on risk-based capital to increase year over year. This is due to the reduction in average assets and the increase in service fee income as a result of the securitization activity.

If we embark upon a jumbo mortgage securitization program as described, average assets reach a high of $259.7 million in year five. The associated net interest income is $3.2 million. Net servicing income recognized in year five is $2.86 million. This has grown substantially from the annual net servicing income of $275,000 in year one. Total income for year five is $6.1 million. From this we must subtract $2.4 million for taxes. Net profit after tax in year five of our jumbo mortgage securitization program is $3.7 million. This represents a 1.42 percent return on average assets of $259.7 million.

By year five in our jumbo mortgage loan securitization program, average assets are less than 18 percent of the average assets that would have been generated in a portfolio lending envi-

Table 1

(In billions)

Year	Jumbo Originations($)	Jumbo Securities($)	Percent of Securities
1990	61.5	24.431	40%
1989	59.325	14.238	24%
1988	57.534	15.850	27%
1987	67.431	11.100	16%

Table 2

(In billions)

Year	Conforming Originations($)	Conforming Securitizations
1990	282.8	61%
1989	273.3	52%
1988	269.5	35%
1987	285.1	49%

ronment. Similarly, required tier-one capital and risked-based capital levels are 82 percent lower than a portfolio lending program would dictate. Our $3.7 million net profit after tax represents a 35.7 percent return on tier-one capital required of $10.38 million. In a similar fashion, the $3.7 million net profit after tax represents a return on risk-based capital of 71.4 percent.

The creation of an off-balance-sheet servicing income stream has caused our return on assets (ROA) to trend up from .98 percent in year one to 1.42 percent in year five. Our return on tier-one capital has increased from 24.5 percent in year one to 35.7 percent in year five. Return on risk-based capital increased from 49 percent in year one to a robust 71.43 percent in year five.

While both portfolio lending and asset securitization would meet our tier-one equity hurdle rate of 16 percent, the creation of an off-balance-sheet service fee and an overall reduction in the size of the balance sheet associated with a securitization program will have a significant impact on our ROA, return on tier-one capital and return on risk-based capital. Of course, the world is not such a simple place. In real life, we would have the problems associated with varying production volume, overhead expenses, costs associated with asset and liability hedges and volatile prepayment speeds.

Jumbo loan lending affords opportunities both on and off the balance sheet. Off-balance-sheet opportunities are particularly attractive. But there are added benefits associated with a robust jumbo loan program, most notably in the area of cross-selling. The jumbo mortgage loan customer can be solicited for deposit products, such as checking accounts and money market instruments, as well as other loan products such as credit cards, home equity loans and car loans. Jumbo loan borrowers tend to make greater use of the financial services offered through banks and thrifts.

Credit-enhancement alternatives

The greatest difficulty associated with jumbo loan securitization is acquiring the appropriate credit enhancement to achieve the necessary ratings from the rating agencies. There are four specific risks that must be covered to achieve AA/Aa or AAA/Aaa ratings. These risks are:

Credit loss—the risk associated with the borrower not making his monthly mortgage payment.

Special hazard losses—the risk associated with the failure of standard hazard insurance policies carried by the homeowner to cover risks associated with various causes of physical damage. These special-hazard risks include earthquakes and vandalism.

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Borrower bankruptcy—the risk associated with a bankruptcy court judge modifying a mortgage loan's interest rate or reducing its principal amount during bankruptcy proceedings.

Mortgage repurchase obligation—the risk associated with misrepresentation in the preparation of the loan application.

The second, third and fourth risk items above are often referred to as "splinter" coverages. These coverages typically total from 1.1 percent to 3 percent of a mortgage pool. Credit-loss coverage, on the other hand, typically represents 7 percent to 10 percent of a mortgage pool. Consequently, we will focus our attention on credit-loss coverage.

Credit-loss coverage

There are several ways to provide coverage for the risk of credit loss on a mortgage pool. They include:

- mortgage pool insurance
- subordination of a percent of the pool to the senior certificate holders
- letters of credit
- combinations of these techniques.

Pool insurance covers losses other than those due to borrower bankruptcy, special hazard and fraud. Pool insurance allows for regulatory and GAAP asset sale treatment for 100 percent of the pool. However, special hazard, fraud and bankruptcy losses must be covered by other forms of credit enhancement.

To be eligible for pool insurance, the mortgage loans must be underwritten in accordance with the guidelines established by the pool insurer. These guidelines are often more stringent than the underwriting policies of portfolio lenders and those lenders who enhance customer service levels through streamlined documentation. Because pool policies are provided by third-party vendors, investors in mortgage-backed securities that use credit enhancement through pool insurance are exposed to third-party event risks. That is, should the pool insurer be downgraded, so will the mortgage-backed security.

The most popular form of credit enhancement in recent years has been the senior/subordinate certificates. In this scenario, a portion of the pool is subordinated to the senior class. All losses on the pool are applied first to the holders of the subordinate certificates and, upon their retirement, to the holders of the senior certificates. Additionally, the senior/subordinate technology can be used to cover the splinter risks described above as well as the credit risk.

Because the rating agencies allow for some covariance of risk between credit losses and special hazard, fraud and bankruptcy losses, the total amount of subordination required to cover all losses is typically less than the amount of insurance coverage that would be required for each loss on an incremental basis. Investors prefer the senior certificates of senior/subordinate structures, because there is no third-party event risk that can result in the downgrading of the senior certificates. Consequently, the senior certificates tend to trade at tighter spreads to the Treasury yield curve than other types of credit-enhanced certificates.

The major problem with the senior/subordinate credit enhancement structure is the requirement that the subordinate certificate must be sold to achieve asset-sale treatment for regulatory purposes. Unfortunately, the market for subordinate certificates is highly illiquid.

A credit-enhancement structure borrowed from asset-backed securities involves using a letter of credit. In this structure, a highly rated financial insti-

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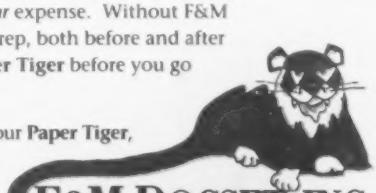

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tution provides a letter of credit that can be drawn upon to cover losses associated with credit risk, special hazard loss, bankruptcy or fraud.

The letter-of-credit writer typically requires some form of reimbursement agreement or "spread account." Spread accounts are typically funded with an initial deposit by the issuer and an allocation of monthly excess servicing cash flows. The letter-of-credit writer recoups his losses from available amounts in the spread account. Typically, the spread account must grow to a level equal to the size of the letter of credit. At this point, the letter of credit is retired and no additional cash flows are required to be delivered to the spread account.

In effect, the letter-of-credit writer has created a lien on the excess servicing rights of the issuer. Consequently, the excess servicing cannot be capitalized for regulatory accounting purposes. As a result, the use of a spread account (or other type of reimbursement agreement) typically results in a dramatic mismatch between RAP proceeds and GAAP proceeds.

Once the spread account is fully funded, the excess servicing cash flows can be taken into income as earned. Unlike asset-backed structures, the amount of excess servicing spread associated with first-mortgage transactions is typically small (indicative of the transformation of first mortgage products into commodities). Consequently, the spread account funds over an extremely long period of time and, hence, greatly reduces the present value of the excess servicing rights one could reasonably expect to earn after the spread account is fully funded.

Creative techniques

Recently, creative issuers have borrowed from each of the above approaches to create mechanisms of credit support that satisfy their objectives.

For example, we have seen letters of credit or pool insurance used in combination with senior/subordinate certificates. In this environment, the benefit of the pool insurance might run only to the subordinate certificate holder, thereby causing the subordinate certificate holder to have a rating equal to the rating on the senior certificate. The senior certificate trades better because it looks only to the sub-

ordinate certificate for credit enhancement. Hence, it is not exposed to third-party event risk. Other transactions have been done with 50 percent of the credit enhancement provided in the form of subordinate certificates and 50 percent of the credit enhancement provided in the form of letters of credit.

Techniques in covering the risk associated with special hazard losses, bankruptcy and fraud are no less creative. In the early days of jumbo mortgage securitization, issuers typically purchased special hazard insurance policies from multi-line property and casualty insurers. These insurers routinely provided surety bonds for bankruptcy and fraud risks.

Today, these risks are covered through insurance policies, letters of credit backed by spread accounts or cash deposits into reserve funds. Recently, one of the nationally recognized rating agencies dramatically increased its requirements for borrower bankruptcy coverage. In a recent transaction, the change in the bankruptcy coverage requirement resulted in coverage levels five times greater than previously required.

Choosing a structure

Now that we have identified the opportunities in the jumbo loan market and the various types of structures we can use to securitize jumbo loans, how do we decide what structure to use? Like any other financial transaction, the answer lies in clearly defining your financial objectives.

The most basic question lies in determining whether you are trying to maximize your RAP capital formation or your GAAP capital formation. Capital formation is defined as the after-tax gain or loss on a sale plus the reduction in capital required to hold the mortgage loan assets on the books. GAAP gains/losses on sales are reduced by the issuer's estimated losses that will be incurred when supporting any of the four risks associated with the transaction: credit loss, special hazard loss, borrower bankruptcy loss and fraud loss.

Regulatory policy, however, does not allow an issuer to estimate probable losses and reserve for them accordingly. Rather, the issuer must write off the entire amount of exposure he has to any type of loss. Conse-

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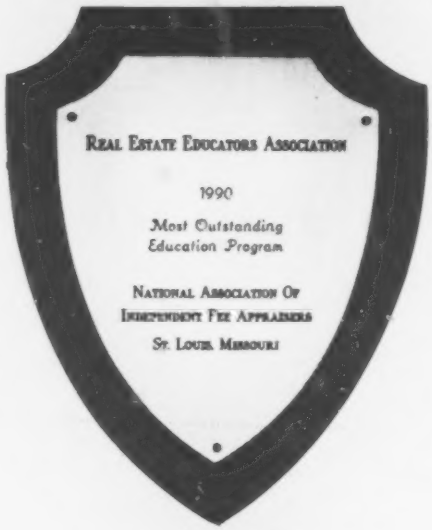

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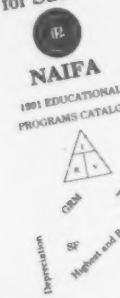

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quently, whenever spread accounts, reserve funds or other reimbursement agreements are used to support the various forms of risk, there typically exists a significant mismatch between RAP capital formation and GAAP capital formation.

RAP capital formation is typically maximized when the issuer purchases credit-enhancement policies from third-party vendors without entering into reimbursement agreements, spread accounts or reserve funds. GAAP capital tends to be maximized when the issuer retains some risk that he can estimate with high probability and reserve for accordingly.

To sell or not to sell

How can a financial institution decide whether it is better to finance its jumbo mortgage loan production on its balance sheet or whether to move it off the balance sheet and merely take the income associated with the servicing activities?

From the perspective of a shareholder, financial institutions should sell their mortgage loan production when the present value of the expected servicing income plus the gain/loss on sale exceeds the present value of the expected net interest income minus the cost of capital associated with carrying the asset on the balance sheet.

For an illustration, let us return to the utopian world we crafted for our discussion of various return ratios in portfolio lending and securitization environments. Let us assume the market for fixed-income instruments has rallied such that the sale of $250 million of fixed-rate jumbo mortgages will produce a pre-tax gain of $3.750 million. (Remember, this is Utopia.)

Let us examine the benefits to the shareholder before and after asset securitization. The present value of the net interest income earned over five years on $250 million of jumbo loans is approximately $9.171 million. At a tier-one capital level of 4 percent, the bank will be required to hold approximately $10.0 million in tier-one capital to support this asset. (The capital initially allocated will be reduced as the loans amortize and prepay.) Given a tier-one hurdle rate of 16 percent, the shareholder would be unwilling to use this capital unless we generate a present-value return of at least $6.446 million.

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The difference between what the asset produces and what the shareholder requires is the excess benefit to the shareholder. In this case it totals $2.724 million.

Now assume for a moment that we securitize the $250 million of jumbo mortgages and recognize servicing fee income and a one-time gain on the sale. In this transaction, the bank would recognize a net stream of servicing-fee income equal to 22 basis points. The present value of this stream of income is $1.345 million.

Additionally, the one-time, after-tax gain on sale on the mortgages is $2.276 million. Because the assets have been sold, there is no capital support requirement and, hence, no required return on capital. We see the revenue from selling the asset equals the present value of the net servicing fee plus the gain on the sale, which totals $3.621 million. From this, we must subtract the after-tax transaction expenses of $.242 million. This asset securitization produces a net benefit to the shareholder of $3.378 million and deploys no capital. From this point of view, we clearly see that the sale of the asset provided a higher benefit to the shareholder.

Conclusion

The securitization of jumbo mortgage loans has not reached the level of efficiency demonstrated by conforming loan securitization. Consequently, the profit margins associated with jumbo loan originations remain wide enough to attract both portfolio lenders and mortgage bankers. Gaining a better understanding of credit-enhancement techniques and their impact on RAP and GAAP capital formation will allow lenders to maximize their return on capital.

As lenders bring their capital levels in line with 1992 requirements, we can expect a higher percentage of jumbo originations to be securitized. This will squeeze jumbo loan profit margins, which in turn, will reduce the desire of portfolio lenders to hold these loans on their balance sheet. As with all maturing markets, the consumer emerges the winner with lower incremental costs. **MB**

Scott McAfee is executive vice president and Luke Hayden is senior vice president of Security Pacific National Bank, Cypress, California.

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Mortgage Banking in May...

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- RTC running mortgage companies
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- Managing risk in mortgage banking

ECONOMIC TRENDS

Demographic shifts in the U.S. have been well documented. The baby boomers—those individuals born between 1946 and 1964—have moved through the age distribution of the population like a "pig in a python." In 1991, the first cohort of baby boomers hit 45 years old, with the rest of the herd in their late 20s to early 40s. Chart 1 shows the number of households in which the head is 35 to 44 years old. The surge in the number of households in this age group during the 1980s reflects the influx of the baby boomers. Currently, there are around 20 million households headed by 35 to 44 year olds—more than one-fifth of all households in the United States. This age group traditionally has represented a sizable component of the move-up market—particularly those individuals with growing families and affluence who are seeking larger homes with more amenities.

CHART 1

Households Headed by 35–44 Year Olds

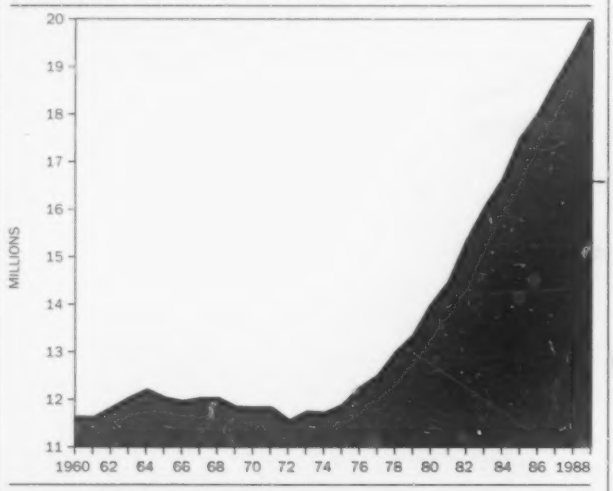

TABLE 1

Characteristics of New Homes Sold

Characteristic	Percentage of New Homes with the Characteristic					
	1980	1986	1987	1988	1989	1990
Central air conditioning	63	69	71	75	77	76
2½ bathrooms or more	25	33	38	42	44	45
4 bedrooms or more	20	20	23	26	28	29
1 fireplace or more	56	62	62	65	65	66
Garage for 2 cars or more	56	60	65	66	70	72
Addendum:						
Average size (square feet)	1,740	1,825	1,905	1,995	2,035	2,080

The maturation of the baby boomers has not gone unnoticed by home builders. To cater to the sheer size of the move-up market of baby boomers and to respond to the apparent national preference for bigger and better homes, builders have increasingly upped the size of homes they are building and the features in those homes.

Statistics on new homes vividly illustrate the trend. Table 1 shows selected characteristics of new homes completed in the past 10 years or so from 1980 to 1990. In 1980, the average size of new homes built was only 1,740 square feet. Of these new homes, 63 percent had central air conditioning, 25 percent had two and a half bathrooms or more, 20 percent had four bedrooms or more, 56 percent had one fireplace or more, and 56 percent had a garage for two cars or more. The average price was $76,400.

Times have changed. In 1990, the average size of new homes built was 2,080 square feet. Of these new homes, 76 percent had central air conditioning, 45 percent had two and a half bathrooms or more, 29 percent had four bedrooms or more, 66 percent had one fireplace or more, and 72 percent had a garage for two cars or more. The average price was $150,000— nearly double what it was 10 years earlier.

The annual patterns during the late 1980s clearly support the view that there is still momentum in the direction of larger homes with more amenities. One implication is that average prices are likely to continue to rise.

Size and amenities do not come free. Part of the increase in new home prices in the 1980s reflected fundamentals such as rising incomes, rising construction costs and the like, but changes in the nature of new homes—in their size and in their amenities—also had a lot to do with the general rise in prices of new homes. As noted, the average new home price increased 96.3 percent from 1980 to 1990, nearly doubling. The U.S. Census Bureau estimates that nearly half of this increase came as a result of increases in the size of units and the features of those units. Prices for new homes that were the same size and had the same amenities would have only increased 49.3 percent.

One implication of this trend toward larger and fancier homes is that new additions to the housing stock will continue to be inherently more expensive than units currently in the stock. Partly as a consequence, housing affordability is likely to remain an important national problem for years to come.

Thomas M. Holloway
Senior Economist

VITAL STATISTICS

INTEREST RATES & YIELDS
1- TO 4-FAMILY MORTGAGES

	FHA OPINION SURVEY	FHFB			FNMA		FHLMC	
1990	FHA New Homes[1]	CONVENTIONAL[2] FRM	ARM	Median Cost of Funds SAIF Institutions	1-Yr. ARM	FRM Conv.	ARMs	FRMs
NOV	10.02%	10.39%	9.07%	9.69%	7.60%	9.87%	8.08%	9.90%
DEC	9.74	10.20	8.94	9.58	7.34	9.56	7.93	9.67
1991 JAN	9.62	10.04	9.03	9.54	7.10	9.51	7.74	9.64
FEB	**NA**	**NA**	**NA**	**NA**	**6.81**	**9.25**	**7.65**	**9.37**

SELECTED SECURITIES

		PRIME COMMERCIAL PAPER	U.S. GOVERNMENT				
1990	FEDERAL FUNDS RATE	(3-Month)	6-Month	1-Year	3-Year	10-Year	A-Rated Utility
NOV	7.81%	7.91%	7.03%	7.31%	7.74%	8.39%	10.07%
DEC	7.31	7.80	6.70	7.05	7.47	8.08	9.95
1991 JAN	6.91	7.10	6.28	6.64	7.38	8.09	9.83
FEB	**6.25**	**6.49**	**5.93**	**6.27**	**7.08**	**7.85**	**9.54**

CURRENT SECONDARY MARKET YIELDS

1990	GNMA[3]	FNMA[3]	FHLMC[3]
NOV	9.63%	9.66%	9.54%
DEC	9.22	9.27	9.16
1991 JAN	9.17	9.24	9.12
FEB	**8.81**	**8.86**	**8.77**

SPREADS
(Basis Points)

	GNMA	FNMA	FHLMC
1990	Minus 10-Yr. Govt.	Minus 10-Yr. Govt.	Minus 10-Yr. Govt.
NOV	124%	127%	115%
DEC	114	119	108
1991 JAN	108	115	103
FEB	**96**	**101**	**92**

SECONDARY MARKET ACTIVITY
(Dollars in Millions)

	FNMA				FHLMC				GNMA	
	Portfolio		Mortgage-Backed Securities						Pass-Through Securities	
1990	Commitments*	Purchases	Out-Standing	Issued	Commitments To Sell	Commitments To Buy	Mortgages Purchased	PCs Issued	Applications	Issued
OCT	$1,849	$2,077	$287,674	$8,078	$7,260	$10,972	$6,118	$5,734	$5,748	$5,347
NOV	2,426	2,078	293,710	8,199	9,948	10,164	6,981	6,314	5,008	5,890
DEC	2,104	2,410	299,833	8,010	7,230	12,938	10,638	9,918	4,170	4,628
1991 JAN	**1,889**	**1,781**	**302,737**	**4,830**	**5,149**	**8,437**	**5,018**	**4,438**	**3,612**	**4,459**
1990 TOTAL	23,689	23,959	—	96,695	77,412	102,400	75,518	73,815	64,709	64,349
1989 TOTAL	27,409	22,518	—	69,764	85,408	86,263	78,589	73,518	62,000	57,262
1 MONTH AVG. 1991	1,889	1,781	—	4,830	5,149	8,437	5,018	4,438	3,612	4,459
1990	1,659	2,214	—	7,760	7,603	8,020	6,423	7,764	5,052	5,236
1989	1,087	1,037	—	4,074	3,492	5,206	3,586	3,408	4,972	4,291

*Does not include standby commitments issued, but includes standby commitments converted.

HOUSING ACTIVITY

RESIDENTIAL STRUCTURES

(Units in Thousands, Seasonally Adjusted Annual Rates)

	BY TYPE OF UNIT						BY REGION							
	HOUSING STARTS			BUILDING PERMITS			HOUSING STARTS				BUILDING PERMITS			
1990	Total	1-4 Units	5+ Units	Total	1-4 Units	5+ Units	Northeast	Midwest	South	West	Northeast	Midwest	South	West
OCT	1,026	861	165	920	751	169	144	230	392	260	113	200	354	253
NOV	1,130	823	307	906	713	193	147	232	483	268	105	195	367	239
DEC	975	766	209	844	688	156	109	233	400	233	100	178	337	229
1991														
JAN	**850**	**661**	**189**	**804**	**646**	**158**	**77**	**198**	**340**	**235**	**99**	**187**	**301**	**217**
1990 TOTAL	1,193	932	261	1,104	852	252	131	253	480	329	124	235	425	321
1989 TOTAL	1,376	1,059	318	1,338	998	340	179	266	536	396	179	252	505	402
1 MONTH AVG. (SAAR)														
1991	850	661	189	804	646	158	77	198	340	235	99	187	301	217
1990	1,543	1,131	412	1,739	1,076	663	158	364	522	499	194	481	636	428
1989	1,659	1,254	405	1,455	1,095	360	288	304	639	428	231	284	551	389

HOME SALES

(Units in Thousands)

	EXISTING HOMES			NEW HOMES		
1990	Sold (SAAR)	Available for Sale	Months Supply At Current Sales Rate	Sold (SAAR)	Available for Sale	Months Supply At Current Sales Rate
OCT	3,070	2,640	10.3	465	334	8.7
NOV	3,150	2,580	9.8	486	327	8.1
DEC	3,130	2,100	7.9	465	319	8.4
1991						
JAN	**2,910**	**2,310**	**9.5**	**408**	**316**	**9.3**
1990 TOTAL	3,308	---	---	535	---	---
1989 TOTAL	3,440	---	---	650	---	---
1 MONTH AVG. (SAAR)						
1991	2,910	---	---	408	---	---
1990	3,470	---	---	627	---	---
1989	3,660	---	---	704	---	---

VALUE OF NEW PRIVATE CONSTRUCTION PUT IN PLACE

(Units in Billions of 1987 Dollars, Seasonally Adjusted Annual Rates)

	Total[5]	1–Unit	2+ Units	Nonresidential
OCT	$280.9	$93.3	$17.0	$89.1
NOV	272.1	90.6	16.0	86.7
DEC	267.6	87.8	16.6	86.9
JAN	**264.5**	**82.3**	**16.1**	**86.9**
1990 TOTAL	294.1	100.7	17.4	92.7
1989 TOTAL	308.5	108.3	20.7	96.0
1 MONTH AVG. (SAAR)				
1991	264.5	82.3	16.1	86.9
1990	308.9	110.1	18.0	94.0
1989	321.1	114.8	21.3	98.4

LENDER ACTIVITY

LONG-TERM MORTGAGE LOANS CLOSED
By Type of Institution and By Type of Unit
(Dollars in Millions)

	1-4 UNITS					5+ UNITS					NONRESIDENTIAL				
	Total[1]	Mortgage Bankers	Savings & Loans[2]	Commercial Banks	Life Companies	Total[1]	Mortgage Bankers	Savings & Loans[2]	Commercial Banks	Life Companies	Total[1]	Mortgage Bankers	Savings & Loans[2]	Commercial Banks	Life Companies
1990															
MAY	$37,255	$9,420	$13,183	$14,231	$27	$2,453	$297	$1,061	$874	$39	$15,412	$110	$640	$10,905	$2,657
JUN	38,428	9,714	13,209	15,063	29	2,778	209	989	682	182	16,411	105	666	12,303	3,097
JUL	35,519	9,627	12,015	13,461	30	2,082	165	871	696	209	16,221	98	475	12,525	2,984
AUG	**36,651**	**11,236**	**12,937**	**12,032**	**34**	**2,556**	**80**	**950**	**1,243**	**92**	**18,964**	**107**	**647**	**14,783**	**2,994**
1989															
TOTAL	352,026	65,606	157,676	123,193	1,443	31,145	4,443	13,469	7,669	2,786	149,950	1,688	14,476	106,424	25,675
1988															
TOTAL	383,566	85,307	188,871	101,863	3,331	38,158	4,526	20,551	6,920	3,732	181,604	1,032	24,368	124,106	29,986
8 MONTH AVG.															
1990	35,707	9,489	12,200	13,588	56	2,680	375	948	891	195	17,106	122	666	12,935	3,027
1989	28,320	5,469	12,828	9,610	83	2,385	281	1,150	549	185	11,709	129	1,339	8,299	1,819
1988	32,044	7,307	15,459	8,702	232	2,995	367	1,634	554	280	15,250	73	2,053	10,922	1,994

MORTGAGE INSURANCE
(Units in Thousands, Dollars in Millions)

	APPLICATIONS RECEIVED (Units)				LOANS INSURED							
	TOTAL	FHA[6]	VA	PRIVATE	TOTAL		FHA		VA		PRIVATE	
					Units	Amount	Units	Amount	Units	Amount	Units	Amount
1990												
SEP	119	68	14	37	109	$8,827	64	$4,319	14	$1,180	31	$3,328
OCT	133	74	20	39	120	9,756	66	4,476	19	1,612	35	3,668
NOV	113	62	15	36	107	8,554	63	4,225	14	1,207	30	3,122
DEC	**91**	**49**	**11**	**31**	**93**	**7,485**	**55**	**3,686**	**11**	**931**	**27**	**2,868**
1990 TOTAL	1,623	956	195	472	1,340	106,602	780	51,863	193	15,783	367	38,956
1989 TOTAL	1,687	990	194	503	1,274	95,956	726	45,893	183	12,946	365	37,117
12 MONTH AVG.												
1990	135	80	16	39	112	8,883	65	4,322	16	1,315	31	3,246
1989	141	83	16	42	106	7,996	61	3,824	15	1,079	30	3,093
1988	147	79	18	50	111	8,167	58	3,548	18	1,314	35	3,305

NA—Not Available; SAAR—Seasonally Adjusted Annual Rate

[1]Secondary market gross yields. Numbers shown for each month are the average of yields from the first day of the month shown and the first day of the subsequent month.

[2]Effective rate on loans closed.

[3]Securities for 0- to 30-day delivery.

[5]In addition to the categories of private construction shown, the total also includes these categories: residential improvements, railroads, electric light and power, gas, telephone and telegraph, petroleum pipelines, and farm nonresidential.

[4]In addition to the categories shown, the total also includes private pension funds, private MBS conduits, state and local retirement funds, federal credit agencies, mortgage pools, and state and local investment agencies.

[7]Savings & Loans and Mutual Savings Banks.

[6]FHA applications received includes the Direct Endorsement Program.